

Name: \_\_\_\_\_

**pa1106: Factoring with box when  $a = \text{prime}$  (v13)**

**Example**

Use the box to factor  $2x^2 - 9x - 18$ .

Guess and check, based on factor pairs of  $-18$ , until you find the pair that results in a linear coefficient of  $-9$  after combining like terms.

*	x	
2x	$2x^2$	$-12x$
3	$3x$	$-18$

$2x^2 - 12x + 3x - 18$

Combine like terms.

$2x^2 - 9x - 18$

ANSWER:  $(2x + 3)(x - 6)$

**Question 1**

Use the box to factor  $7x^2 + 41x + 30$ .

*	x	
7x	$7x^2$	$35x$
6	$6x$	30

ANSWER:  $(7x + 6)(x + 5)$

### Question 2

Use the box to factor  $5x^2 - 6x - 8$ .

*	x	-2
5x	$5x^2$	-10x
4	4x	-8

ANSWER:  $(5x + 4)(x - 2)$

### Question 3

Use the box to factor  $3x^2 - 32x + 64$ .

*	x	-8
3x	$3x^2$	-24x
-8	-8x	64

ANSWER:  $(3x - 8)(x - 8)$